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ABSTRACT

The Fernald School's program of remedial instruction for disadvantaged children began in 1966. As a facility of the Psychology Department at the University of California at Los Angeles, the school has been concerned since its founding in 1921 with the diagnosis and treatment of learning disorders, particularly those not due to mental retardation or severe neurological or emotional pathology. Their program for disadvantaged children described in this booklet, however, represents a departure from the school's previous restriction to clients from families that could afford tuition. Children from grades two through 11 are served by the program. Students selected are male, of average intelligence, and at least one and one-half years retarded in basic school skills. The disadvantaged students in the program are drawn from the mid-city area of Los Angeles. Two-thirds of the disadvantaged students are black, and the remaining one-third are Mexican-American or white. During the first academic year, 60 children were in the program; during each of the following two years, there were 80 students. The three factors that Fernald staff members see as differentiating the experience of students at Fernald from that at other schools are: (1) the degree to which the program is individualized; (2) the low student-teacher ratio; and, (3) the total-school environment, which results from these and other special characteristics. (Author/JM)

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Model Programs

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Compensatory Education

The Fernald School Remediation of Learning Disorders Program
Los Angeles, California

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Foreword

This is the third in NCEC's *Model Programs* series, whose purpose is to inform educators about successful ongoing programs and to provide them with sufficient information to decide if locally modified replications would be desirable. Included in this series are descriptions of 15 "successful" compensatory education programs for disadvantaged children currently operating in the Nation's schools.

Under contract to the Office of Education, the American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif., identified—through a literature search and nominations by local, State, and national educational agencies—over 400 candidate programs in this area. Of this number only 17 met the stringent criteria for success established by AIR in conjunction with OE. It should be noted that most of the programs rejected during the study were not rejected because they were demonstrated failures but rather because their evaluation methodology was so inadequate that a conclusion about success or failure could not be drawn.

Short descriptions of each program in the series have been prepared, covering such topics as context and objectives, personnel, methodology, inservice training, parent involvement, materials and equipment, facilities, schedule, evaluation data, budget, and sources for further information.

Six of the programs in this series were formerly written up in the *It Works* series published by OE in 1969. These six continue to operate successfully, as evidenced by the evaluation data; and since the *It Works* booklets are out of print, the program descriptions have been updated and included in this *Model Programs* series.

Two other programs—Programed Tutorial Reading Project, Indianapolis, Ind., and Summer Junior High Schools, New York, N.Y.—identified as exemplary compensatory education programs were included in the former *Model Programs* series on reading. Since these program descriptions are still available from the U.S. Government Printing Office, they were not republished for this series.

Two previous *Model Programs* series have been issued—on reading (10 programs) and childhood education (33 programs). Booklets on these programs are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for 15 to 25 cents each.

The Fernald School Remediation of Learning Disorders Program

Los Angeles, California

Overview

The Fernald School's program of remedial instruction for disadvantaged children began in 1966. As a facility of the Psychology Department at UCLA, the Fernald School has been concerned since its founding in 1921 with the diagnosis and treatment of learning disorders, particularly those not due to mental retardation or severe neurological or emotional pathology. Their program for disadvantaged children described here, however, represents a departure from the school's previous restriction to clients from families that could afford tuition.

Children from grades 2 through 11 are served by the program. Students selected are male, of average intelligence, and at least 1.5 years retarded in basic school skills. The advantaged children are all tuition-paying students enrolled in the Fernald School and are mostly upper or middle class whites. The disadvantaged students in the program are drawn from the mid-city area of Los Angeles. The area is considered a "poverty pocket" since the average family income is approximately $3,000 a year. Roughly half of the children are between the ages of 8 and 12; half are 13 or 14. Two-thirds of the disadvantaged students are black, and the remaining one-third are Mexican-Ameri-

can or white. During the first academic year 60 children were in the program; during each of the following 2 years, there were 80 students.

The three factors that Fernald staff members see as differentiating the experience of students at Fernald from that at other schools are (1) the degree to which the program is individualized, (2) the low student-teacher ratio, and (3) the total-school environment which results from these and other special characteristics. In order to facilitate individualized diagnosis and instruction, the pupil-teacher ratio is kept small. The philosophy behind the general school environment is that it should be one where the student can feel that he is a human being worthy of respect, where he will know what is expected of him and when, and where he can find satisfaction in learning.

Methodology

The main components of the Fernald School program are (1) individualized instruction, (2) low student-teacher ratio, and (3) a special school environment.

Individualized instruction.—The Fernald program consists, in the main, of highly individualized remedial instruction prescribed in accordance with a careful diagnosis of each child's specific problems and needs. Thus, specific teaching objectives are different for each child. His learning goals are set so as to permit him to experience success in learning tasks which have previously provided him with consistent failure. Teachers adjust their instructional techniques to fit the individual student's rate, style, and extent of learning. This process has four phases: (1) individual assessment of students' strengths, weaknesses, and limitations; (2) individual planning of each student's program; (3) individualization in carrying out instruction; and (4) individual evaluation of progress.

The assessment process typically begins with compilation of all available educational, medical, psychological, and sociocultural information on a student. This is the basis for formulating a total remediation program. Informal diagnosis of student progress

and problems is continuous, and programs are altered as new information indicates the need.

The individually planned programs might include psychotherapy, social-work contact with the family, or special motor-coordination training as well as classroom instruction. Classroom instruction is, however, the central emphasis of the project. Each lesson is designed to remedy deficiencies in areas such as auditory discrimination, visual perception, or comprehension skills which are believed to be contributing to a particular student's learning problems. The emphasis is on the basic school skills of reading, language, and mathematics; and an attempt is made to give students skill-developing activities which fit their strongest subject-area interests. Each student also takes part in a daily physical education program and a variety of special project activities such as art, music, drama, crafts, and discussion groups.

The teacher attempts to structure each task so that the student strives to perform at a slightly higher level than he had before. Scheduling of activities and use of materials are kept flexible in order to capitalize upon favorable student response to certain activities and to allow for changing activities as necessary. Since each student's criterion for success on a task is a slightly better performance than his previous one, norms and competition with others are not important. Teachers try to enhance each student's feelings of success through praise and positive reinforcement and to encourage students to evaluate their own progress.

Low student-teacher ratio.—Another important feature of the instructional system at Fernald is the low student-teacher ratio and the staffing pattern of instructional teams in each classroom. There are four classrooms, each limited to a maximum of 20 students. In each classroom there are an average of three or four undergraduate trainees per hour under the supervision of a demonstration teacher. The resulting student-adult ratio of about four to one, however, includes many trainees who have had

little prior experience in working with children. The teacher retains responsibility for each pupil and his individual program. This staffing pattern results in a classroom environment of considerable variety. During a typical class session, one child might be working alone on an activity; another might be working individually with a student trainee; and others might be working in small groups directed by student trainees. The teacher moves from place to place, working with individual pupils or small groups while observing and helping the undergraduate trainees.

Interdisciplinary teams are used in each classroom. These teams include the teacher, other professionals, and graduate trainees in the fields of education, psychology, and social work. The team meets weekly to discuss general strategies for instruction and specific remedial plans for students.

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Special school environment.—The general atmosphere of the classroom at Fernald is one of great freedom. The children are free to do anything which will not interfere with other students' attempts to learn or a teacher's attempts to teach. The emphasis on special projects and activities in addition to the basic skills curriculum allows students to pursue idiosyncratic interests, to succeed in areas of value to them, and to demonstrate to others their own special abilities and capacities. By such means the school hopes to foster a sense of joy in learning in children who have known only failure.

Schedule and facilities.—The school operates on a typical 9:00 a.m. to 3:00 p.m. schedule with two 10-minute breaks in addition to lunch. Although each student's daily program might be different, the mornings are generally devoted to academic activities concentrating on basic skills. Every day all students participate in physical education with the coaches for 45-50 minutes. After lunch, students are often involved in work in various content areas according to needs and interests. Also, each student has some special project time, usually 3 to 5 hours per week. This time is used for individual projects, small or large group activities, or field trips.

Each classroom at the school is self-contained, has its own bathroom facilities and outdoor patio. Students often gather for lunch and breaks on the outdoor patio areas.

Materials and equipment.—The school maintains a comprehensive stock of materials including the usual workbooks, texts, kits, and games found in basic skills programs, plus a wide array of miscellaneous books and magazines. Since instruction is individually prescribed, teachers seldom use any one set of materials predominantly. Students are frequently given assignments in areas that are of special interest to them; thus an automobile magazine might serve as instructional material in reading. Often a student's own stories, either dictated or written by him and typed by a staff member, will become his reading material. Special teacher-devised materials are also used. The following list gives some examples of commercial materials available in the program.

Examples of Materials/Equipment	Publisher/Manufacturer
Sullivan Programmed Reading	McGraw-Hill
SRA kits	Science Research Assoc.
Reader's Digest Skill Builders	Reader's Digest Pub. Co.
Deep Sea Adventure Series	Field Educational Pub. Co.
Morgan Bay Mystery Series	Field Educational Pub. Co.
Tachistoscopic filmstrips	Educational Development Lab.
Language Master	Bell and Howell
Miscellaneous magazines	Various
Paperbacks	Various
Typewriters	Various
Slide projectors	Various

The program also has copies of all the California State texts required in regular

public schools. The school library is extensively used as a source of special interest materials.

Personal training activities.—The primary goal of the school's training activities is to improve the effectiveness of both present and prospective professionals in working with disadvantaged children. Preservice and inservice training activities include workshops, lectures, consultation activities, and presentations at professional meetings.

Preservice training methodology focuses on early and extensive experience with disadvantaged children. The approach is designed to help train individuals to be truly effective in working with the disadvantaged.

Inservice training involves visits by professionals to observe the procedures used to individualize and integrate the classroom programs.

Another activity of the Fernald School is the development of videotape recordings to upgrade the communication of ideas concerning such topics as remediation, individualization, and integration. The staff produced a number of professional-quality taped sequences, providing detailed and concrete demonstrations of specialized techniques. They concentrated on production of "spontaneous" videotapes of regular activities as they were in progress. These tapes have been successfully used for training, and the staff hopes eventually to distribute demonstration videotapes using some of the previously recorded, high-quality taped material.

Case Study

The following example, excerpted from a case report written by a school staff member, illustrates the four phases of the instructional process typical of the school program, i.e., (1) individualized assessment of the student's strengths, weaknesses, and limitations; (2) individual planning of each student's program; (3) individualization in carrying out instruction; and (4) individual evaluation of progress.

Jeff was a black, 13-year-old boy of low-average intelligence with basic skills, espe-

cially in the verbal area, in the second and third stanines. At the beginning of the school year, the California Achievement Test was administered to all Fernald School students. Jeff's grade-level scores showed that he was 2 to 3 years below grade level in basic school skills. He was also something of a classroom behavior problem. Jeff's overall classroom attitude and behavior led his teacher to request additional assessment data early in the school year. In general, such assessment is concerned with an individual's performance in a number of key areas, e.g., sensory acuity, perceptual-motor skills, language, higher cognitive processes, social-emotional functioning, and basic school skills. This assessment was accomplished over a period ranging from 6 to 8 hours of individual testing. The additional assessment data requested by the teacher provided the necessary information for deciding whether or not the overall treatment program should be expanded in its scope, and pinpointed a number of specific strengths and weaknesses which allowed the teacher to plan her remediation program in greater depth.

Specifically, Jeff's program was designed to strengthen his study habits and his basic skills in reading, mathematics, and language. In addition, efforts were made to increase his confidence and to help him develop a more positive attitude toward learning by involving him in frequent success experiences.

Jeff's program in language skills furnishes an example of the individualized instructional approach used in all subjects. It rapidly became evident that language skills was one area where Jeff felt comfortable and successful. He was always willing to write. He wrote on a variety of topics, and although his sentences were very simple in structure they were communicative and meaningful. The teacher was able to use his written products diagnostically and soon evolved a program which included encouraging Jeff to write more complex sentences and longer stories. One strategy which proved to be very successful in eliciting greater length was to have Jeff dictate his stories into a tape recorder before putting them on paper. As the year progressed, it became evident that

some of Jeff's spelling difficulty was due to his difficulty in associating particular combinations of sounds with their corresponding letters; therefore some phonetic work was instituted. Since Jeff had a particular liking for machine work, the Language Master (a machine which is designed to facilitate individual instruction in word-analysis skills) proved to be an appropriate and effective tool in this connection.

Counseling was also a part of Jeff's program; he met 1 hour a week with a psychology trainee for several months. The goals of these sessions were to help him learn to cope with classroom demands in an appropriate manner, to gain greater competence in dealing with social situations, and in general to facilitate a number of attitude changes.

Using continual evaluation of his progress throughout the year, Jeff's teacher was able to make appropriate adjustments in his program. His initial resistance to receiving remedial assistance diminished. He became more involved in his school work and with his classmates. At the end of the school year, the California Achievement Test was administered again and Jeff's overall gains averaged 1.7 years.

Description

Personnel

Because the Fernald School functions regularly as a research, demonstration, and training facility at UCLA, the number of personnel listed here represents more than would be needed simply to operate the instructional program. For each staff member, the approximate percentage of time devoted to the program is indicated in parentheses. The student trainees involved in the program are unpaid.

Director (20 percent).—The school director devotes his time to research design, data collection, and analysis; his services are not essential in implementing only the instructional program.

Associate director (60 percent).—The associate director helps supervise the instructional program in the school and coordinates all phases of the project.

Teachers (4, full time).—Teachers are responsible for individualizing the program for each child. In addition to their instructional responsibilities, they are in charge of training university undergraduates who are assigned to their classrooms. Training occupies approximately 30 percent of their time.

Teaching supervisor (90 percent).—The teaching supervisor helps with instruction and training.

Supervisors in psychology and social work (1 each, 10 percent).—Both are involved in supervision and training graduate assistants in their respective fields.

Coach (75 percent).—The coach supervises the physical education program for all students, which, like other aspects of the Fernald program, emphasizes individual progress even within the context of competitive sports.

Assistant coaches (2, 75 percent).—The assistant coaches work and play with students on the athletic field and are available for individual counseling whenever necessary.

Clerical and library staff (6, 40 percent).—They handle library, clerical, and accounting matters.

Graduate student assistants (5 in social work, 4 in psychology, 6 in education; all approximately 20 percent).—The graduate assistants in social work and psychology receive practical experience while working with students from the entire school population. Their services include counseling for students and visits to families. The education

assistants are involved with assessment, educational therapy, and individual program development.

University students (70 for all four classrooms; 7 hours each per week except during university vacations).—These undergraduate students in education gain classroom experience by working with youngsters in the Fernald School. Under the supervision of the regular teachers, they help with individual and group activities.

Budget

An estimate of costs for the instructional program carried out in the four classrooms at the Fernald School was provided by the school staff. Their estimates were based on the 1968-69 budget, adjusted for the percentage of time allotted by staff members to the project. The estimates also excluded staff involved only in activities which were not essential to the instructional program.

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1968–69 Instructional Budget

Salaries	
Teachers	$36,000
Teaching supervisor	12,000
Associate director	10,000
Coach	6,000
Assistant coaches	3,750
Clerical and library staff	14,400
Plant maintenance and supplies	12,000
Bus services	5,200
Total	$99,350

Based on the above budget, per-pupil cost for 80 students, advantaged and disadvantaged, was approximately $1,242 for 1968-69.

The per-pupil cost of approximately $1,242 per year for the program represents an addition of about $600 to the amount that would normally be spent on these children each year by the Los Angeles School District. It may also be compared to the 1968-69 per-pupil fee of $1,200 for the regular tuition-paying Fernald students.

Evaluation[1]

The broad objective of the Fernald evaluation was to determine the impact of the Fernald School's intensive, individualized remedial program upon the learning skills, aspiration levels, and self-attitudes of culturally disadvantaged children with learning disabilities. More specifically, the evaluation was concerned with (1) determining if the Fernald program had differential effects on disadvantaged and advantaged students with similar learning handicaps, and (2) comparing the impact of the Fernald program with that of the enrichment and control treatments. To achieve these evaluation objectives the children were administered a battery of tests at the beginning and end of each academic year. Data were pooled across years and then the pretest-posttest difference or "change" scores were compared.

A total of 18 different instruments were used one or more times during the 3 years of the project, but only six were consistently administered at the beginning and end of each school year: (1) the California Achievement Test (CAT), (2) the Wechsler Intelligence Scale for Children (WISC), (3) the Test Anxiety Scale for Children, (4) the Vocational Checklist, (5) the Ethnic Attitudes Instrument, and (6) the Attitude Survey.

[1] This summary is based upon the information contained in Feshbach's (1969) final report.

Achievement Test Results

The Fernald groups made grade-equivalent gains of approximately 1 year during the 9 months between test administrations, while the other groups made gains approaching 7 months. Since the gains made by the Fernald groups were greater than would be expected of a group of "average" children during a corresponding period of time in a regular classroom (i.e., .9 grade-equivalent units), their gains can be considered educationally as well as statistically significant.

On the basis of test results it can be concluded that the Fernald disadvantaged children made reading, arithmetic, and language arts achievement gains that were equivalent to the advantaged group's gains and consistently greater than the enrichment and control groups' gains. Also, the differences favoring the disadvantaged Fernald group were generally statistically significant and, when compared to the expected gain for average students, educationally significant.

Noncognitive Results

The Test Anxiety Scale for Children was administered as a pretest and posttest in order to determine whether participation in the Fernald School program resulted in a significant decrement in school-related anxiety. Analysis of variance of the change scores indicated that although all groups manifested a decrease in anxiety scores (with the Fernald disadvantaged group manifesting the largest decrement) none of the differences was statistically significant.

The Vocational Checklist was administered to determine whether the Fernald experience produced any change in the children's perceptions of the opportunities available to them and the level of vocational goals they set for themselves. Change score analysis indicated that the Fernald program was not effective in raising the aspirations of the Fernald junior high boys. At the elementary level, however, the Fernald disadvantaged boys did show an elevation in aspiration reliably greater than the advantaged group.

The Ethnic Attitude Instrument was administered to the boys to determine if the inte-

gration experience at the Fernald School had any effect on their perceptions of their own and other ethnic groups. On the basis of change score analysis it was concluded that the results were not very illuminating since there were very few significant differences between the Fernald disadvantaged and the Enrichment or control groups in the degree and direction of change.

The Attitude Survey, a detailed questionnaire dealing with the students' attitudes toward classwork, sports, authority, and peer-relations, was not fully developed until the end of the second year of the program and therefore was not administered until the third academic year. Analysis indicated that the number of children administered the final form of the test was so small and their change score variability was so large, that valid conclusions could not be drawn.

It appears that although the Fernald School had a strong impact on the cognitive achievement of its disadvantaged and advantaged pupils, the success of the program in the noncognitive domain was not convincingly demonstrated.

Modifications and Suggestions

One modification suggested by the program director was an expansion of the efforts to help students make the change from the program back to the regular school environment. It should be possible to duplicate some of the assignments they will have in the regular classroom and to use the same materials in program classes. A period of part-time scheduling in both schools might be devised, especially with older students, to aid in the transition.

Sources for Further Information

For information concerning the program, the following individuals may be contacted:

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Feshbach, S. *A Training, Demonstration and Research Program for the Remediation of Learning Disorders in Culturally Disadvantaged Youth.* Final Report. Los Angeles: Fernald School, UCLA, August 1969.

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MODEL PROGRAMS—Compensatory Education Series

Fifteen promising compensatory education programs for the disadvantaged are included in this series. Following is a list of the programs and their locations:

College Bound Program, New York, N.Y.

Diagnostic Reading Clinic, Cleveland, Ohio

The Fernald School Remediation of Learning Disorders Program, Los Angeles, Calif.

Higher Horizons 100, Hartford, Conn.

The Juan Morel Campos Bilingual Center, Chicago, Ill.

Learning To Learn Program, Jacksonville, Fla.

More Effective Schools, New York, N.Y.

Mother-Child Home Program, Freeport, N.Y.

Preschool Program, Fresno, Calif.

Project Conquest, East St. Louis, Ill.

Project Early Push, Buffalo, N.Y.

Project MARS, Leominster, Mass.

Project R-3, San Jose, Calif.

PS 115 Alpha One Reading Program, New York, N.Y.

Remedial Reading Laboratories, El Paso, Texas

Two programs also identified for this series were described in the *Model Programs—Reading series:* Programed Tutorial Reading Project, Indianapolis, Indiana, and Summer Junior High Schools, New York, New York. Since these program descriptions are still current and available from the Superintendent of Documents, U.S. Government Printing Office, they were not rewritten for this series.

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